EMGT 835 FIELD PROJECT:
Using Virtual Teamwork to Produce an Information Technology Magazine

By

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Executive Summary

The fast paced world of Information Technology is constantly changing. News magazines are one frequently used resource in the never-ending battle to stay current. While it takes a large company to produce a nationally-recognized magazine, the size of the company often works to its own detriment. Self-employed consultants, or "free agents," often are more nimble, and able to follow the rapidly changing landscape. Therefore, the magazine that wishes to have the best and most recent information would be wise to use these free agents. The use of virtual teams will be required, pairing company employees with these outside consultants. And while this arrangement possesses its share of difficulties, the results can be very beneficial.

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1. Introduction

In the book *Free Agent Nation*, author Daniel H. Pink makes some predictions about the future of self-employment.[1] He states that those with specialized skills can become "free agents," choosing the flexibility of working for themselves over the restrictions that often come with working for a company. In essence, these free agents become specialists in a particular area of interest. They can even be referred to as "subject matter experts."

Keeping skills and knowledge current is a challenge that most businesses face. In rapidly changing industries, such as Information Technology, this is especially true. The free agents have an advantage in this regard, as they are able to move more quickly as new trends emerge. While larger companies struggle with such impediments as training budgets, staff availability and other "red tape," free agents can embrace new technologies as they emerge.

In the quest for knowledge, many people turn to trade magazines or other periodicals that cover newsworthy events in their particular industries. These publications usually serve a specific market, and cover topics that are fairly narrow in scope. Even so, a news magazine with a national readership takes a large amount of resources to produce. How can a large company remain nimble enough to adequately cover the news events in their target market? Further, what if this market is in the field of Information Technology?

One answer would be to solicit work from the free agents that Mr. Pink touts so highly. The magazine would be able to focus on the "big picture" of getting the issues produced, while drawing on the expertise of many different free agents to provide the subject matter that their readership is demanding.

This is not a new concept by any means. For decades, companies have contracted consultants and "freelancers" to provide expertise in areas where the company was lacking. What is changing, however, is the manner in which a consultant interacts with the business. Previously, a consultant would typically be physically located at the company during the course of their contract. But, the freelancer of old has transformed into the free agent of today, often working with businesses "virtually," without ever setting foot in their building.

The advances in portable computing and broadband networking have given free agents the ability to collaborate with businesses as if they were in the next cubicle. A free agent's home office may have just as much computing power and networking bandwidth as any traditional business. Now, it is possible to collaborate virtually with people across town, in the next state, even on the other side of the world.

But, can an Information Technology magazine be successful at using free agents or other outside contributors to provide their most critical and valuable content? The balance of this paper will focus on that very topic.

2. Analyzing the Research

The world of "virtual teamwork" is relatively new. Consequently, the body of work studying this area is in its infancy. Most of the work that has been written to date is either journal or magazine articles, with a few case studies of significance. The following are a few articles which had particularly salient points, as well as two very applicable case studies.

2.1 The Genesis of Virtual Teamwork

The first incarnation of virtual teaming was known as "telecommuting," where an employee performed work while not physically in the office. Early attempts amounted to clumsy remote access to a limited number of systems through the use of modems. Over time, the technology improved dramatically. At the present time, employees generally have the ability to securely access all of the same systems from a remote location that they would have available at a cubicle in the office. Even the term "remote" has changed to include home offices, hotels and even coffee shops, thanks in large part to wireless networks and the portability of laptop computers.

Clever employees quickly learned that they could just as easily collaborate with branch offices in other cities just as easily as they could in their home office. Thus, the old idea of telecommuting has evolved into "virtual teams." Much of the research that was done examined this new practice to see if it was as efficient as being "co-located," or everyone on the team being in the same physical location. These studies were often written from a financial viewpoint, since a company didn't usually have to pay to keep up someone's home office.

2.2 Socialization Issues

What most researchers quickly discovered was that virtual teams did not have the same level of "informal socialization" found in more traditional team settings. In his article "Making Your Team Stronger by Bridging 'Virtual Distance,'" author Joe Mullich states that even teams at the same location suffer "when their primary means of communication are e-mail or instant messaging. Such methods lack the nonverbal communication and camaraderie that happen almost unconsciously during in-person meetings."[2] *Training Magazine*'s editor Jack Gordon also discusses the perils that can be present when working virtually with unfamiliar team members. His examples include reacting to criticism, and questioning a team member's ability to judge results. To quote Mr. Gordon, "there's none of the socialization process you get with people who work together in the same place every day."[3]

Mr. Mullich wrote a follow-up article which examines how to avoid this potential pitfall.[4] A "strong tie" is present between team members who already knew each other before the team was formed. These members will tend to form smaller working groups amongst themselves unless steps are taken to keep the team integrated as a whole. If the team is "seeded" with new members that are known by at least one member, a so-called "weak tie" is formed. The chance for team success will increase if there is a good balance of strong and weak ties among the members.

2.3 The Value of Communication

In his follow-up article, Mr. Mullich stresses the importance of face-to-face communications, especially at key moments during a project. These include kick-off meetings, client meetings, or at times of contention. These face-to-face meetings help to

build trust among team members, and dramatically increase the team's chances for success.

Clever uses of technology can help in cases when face-to-face meetings are not practical. Simple technology, such as conference calls, can be useful for conveying information; however they lack the element of visual interaction. A video conference, while more technically complex, can add a much more personal touch to the exchange of information. At the current pinnacle of interactive technology is the web conference. It can provide not only the audio and video components, but also the ability to "share" applications with other team members. For example, the presenter can display a spreadsheet on everyone's computer, illustrating a point much more concisely than trying to verbally explain what something looks like. Feedback is not only instant, but more useful as well. This level of detailed interaction can frequently resolve issues even more quickly than an exchange of e-mails.

2.4 Defining and Sharing Goals

To be successful, a virtual team must have the goals of every team member very clearly defined. In their respective articles, Mullich and Gordon each provide their own commentary on this theme. "Every member must be there for a reason and know what that reason is," according to Gordon. Mullich adds his perspective by saying that each team member needs to "jointly define the team's identity, goals and processes." The longer a virtual team works together, the more important this definition of roles and responsibilities becomes. With a shorter life span, a virtual team may only need to know the immediate requirements to achieve results.

Authors Sze-Sze Wong and Richard M. Burton state "the greater the clarification of role expectations and the cultivation of a common team culture, the higher the performance of the virtual teams with culturally and organizationally diverse members."[5] Their paper stresses the importance of "lateral communications," especially among weak tie members. This implies that when communication of the team's goals increases, team productivity will increase as well.

Another tool that is often used to facilitate communication within a virtual team is the "collaborative workspace." A relative newcomer to the world of software, a collaborative workspace provides services such as file storage, messaging boards, document management, and perhaps even web conferencing.

2.5 Relevant Case Studies

Research, theory and speculation are fine in the world of academia; but application in the "real world" is what really matters. Following are two case studies that apply these concepts of communication, goal sharing and building social structures to two different environments.

2.5.1 Virtually Teaming Journalists at Three Finnish Newspapers

A case study published in 2004 chronicles how three regional newspapers in Finland created a virtual team to create daily content that would be published in each respective edition.[6] The newspapers did not compete with each other since their distribution was limited to the region in which their office was located. However, newsworthy events from each region were something that readers wanted covered in each newspaper.

A new "theme editorial office" was created specifically for this purpose. It was staffed with five journalists granted a temporary assignment from each of the regional

newspapers. A layout editor completed the team, along with a producer, who also served as the virtual team leader. Each team member worked from their regional offices, but was dedicated to working on this project for the duration of their one year assignment.

At the beginning of each week, the journalists were given new assignments. They were free to set their own work schedules, so long as they met the deadlines. Since each journalist was used to working autonomously, this didn't take much getting used to. While each journalist was in frequent contact with the producer, they rarely communicated with other journalists. To fill this gap in communication, a monthly face-to-face meeting was held to keep everyone familiar with each other and their tasks.

Taxed with the highest workload, the producer was responsible for maintaining the overall schedule of the team. Assignments were given about three weeks in advance of their publish date. The lead time gave the producer some flexibility to ensure that a journalist didn't have too large of a workload, and that deadlines could be met.

The case study reports that each newspaper was very happy with the quality of work produced by this virtual team. Each newspaper gained the mutual benefit of publishing stories from other regions without the extra cost of hiring a journalist to cover that area. The study also showed that those journalists who communicated with the producer most frequently did the best. Further, it implied that those who already relied heavily on e-mail made the easiest transition to the virtual team environment.

This virtual team wasn't made up of free agents, since they all were employed on a full-time basis by one of the newspapers. However, the team was made up of three different companies, which demonstrates that virtual teams can be successful when looking outside of a particular company's structure.

2.5.2 Contrasting Fluid and Static Virtual Teams

Another study demonstrates how performance of a virtual team is affected when the membership of the group changes over time.[7] Set in a college environment, an instructor carved his class into several teams to work on assignments. However, for each successive assignment, the membership changed by one or two students. The instructor then observed changes in the grading that followed the change in membership, as well as the change in the effectiveness of each team. To facilitate a virtual team environment and provide a collaborative workspace, the class used the electronic courseware, WebCT.

One seemingly obvious result is that static membership was preferred over a constantly changing team. A pattern of behavior quickly develops, providing a "comfort zone" to the members. On the other hand, everyone acknowledged that new members often provided new perspectives and ways of looking at things.

An interesting result revealed that there was less "social loafing," as the author terms it, on teams with a fluid membership. Put another way, there were less complaints of students not doing their fair share of work on teams with a changing membership. Speculating as to the cause, the author proposes that this is because everyone is on their "best behavior" when they are new to a team and getting to know everyone else.

If this research were applied to a team made up of free agents, it first implies that former members would be invited to participate in future projects. Further, a short term project would keep members doing their best work, as they stay in that "getting to know you" phase. But is a so-called "professional" is less likely to loaf than their academic counterparts in the study? Since the students had no worries of being "fired," or not invited to participate on subsequent assignments, this very well may be true.

3. Using Virtual Teams at an Information Technology Magazine

The Information Technology Magazine that was referred to in the Introduction is an actual company, which the author has worked for in the past. To honor their request for anonymity, they will be referred to simply as "the Magazine" in this paper. The Magazine has a national readership, and publishes a new edition weekly. The subject matter covers the rapidly changing landscape of Information Technology and Networking. The author was first exposed to the idea of working virtually through assignments given to him by the Magazine, and is familiar with the Magazine's staff and processes.

Much like any traditional periodical, the Magazine has the usual working groups, such as an art department, editors and "beat reporters," which cover news events, press releases and other "goings on" in the market segments. What makes the Magazine somewhat unique among their peers is both in their extensive use of virtual teams and their decision to use writers outside of the Magazine for stories requiring the most specific knowledge.

Product reviews and analysis are routinely commissioned to a subject matter expert who is not employed by the Magazine. The processes which enable the Magazine's internal staff to work virtually also facilitate adding this work from outside contributors. This flexibility gives the Magazine an edge over their competitors to seek out the most knowledgeable people to report on a product or technology without having to develop and maintain that expertise internally.

There are both static and fluid virtual teams used at the Magazine, each contributing to the overall goal of publishing a given issue. Additionally, there are many traditional

static, co-located teams at work at the Magazine. For virtual teams to truly be successful, the output produced by the virtual teams should meet or even exceed that produced by the traditional co-located teams. Similarly, a virtual team with outside contributors should be able to produce similar work to the other teams for their existence to be justified.

Using authors from outside the company to provide content gives the Magazine the flexibility to report on almost any new trend in the marketplace. Someone will always have the best, most up-to-date knowledge on a particular subject or product. If the Magazine can contract with that person to participate on a virtual team to produce an article, they will have a competitive advantage over other magazines. Not only will they have access to any subject area, but they will also produce content that is applicable in the business landscape. The Magazine has reported that such content has received the highest rated feedback from their readership.

4. Using a Survey Tool to Measure Success

To measure how effective virtual teams are for the Magazine, a survey tool was used to poll team members on their work habits, and perceived outcomes. The survey focused on one specific issue of the Magazine, and respondents were asked to consider the entire lifecycle of the issue, taking it from story ideas to published work. Since not every member of the Magazine works on every issue, this will represent a subset of all Magazine employees. Further, this will represent only a small subset of the outside contributors that the Magazine may use. It is assumed that there is no significant variance between members who worked on this particular issue, and those who may work on other issues. The responses should vary only by the type of work being performed. When the survey data is analyzed in subsequent chapters, these assumptions will be scrutinized in greater detail.

4.1 The Survey Questions

The survey used was adopted from another survey used in a Ph.D. dissertation by Janis Grevins.[8] It is used with permission for research purposes, and was provided by Prof. Herbert Tuttle, who obtained the permission. It was first developed as a paper survey, which is shown in its entirety in Appendix A.

The survey is divided up into eight sections. The first section gauges the successfulness of the project. The second section seeks to know if the project came in on time and on budget, which is a less subjective indicator of success. In the third section, some of the psychosocial aspects of the team dynamics are explored.

Communications media are recorded in the fourth section simply as a matter of frequency. The fifth section asks similar questions, but comparing percentages of one medium to another. Both questions demonstrate which methods are preferred over others.

Basic demographics are collected in the sixth section, but nothing that would make the respondent identifiable. This information will be useful in discovering trends, however.

The seventh section probes the physical proximity of the team. Using "yes/no" questions, it provides a granularity for how co-located the team members are. Finally, the eighth section seeks to find out how often team members change their work location or schedule. It also provides some essay answers, asking about work habits and preferred communications technologies.

4.2 Selecting the Sample

One of the editors at the Magazine worked with the author to select a sample group for the survey. It was decided to use one particular issue, and invite everyone who worked on any part of it, from scheduling through publication. The total sample size is 20 respondents, including both Magazine staff and free agents. The population is made up of 40 Magazine staff, and roughly 40 free agents. This represents a sample that is approximately 25% of the population.

A random sample was not used since working conditions and assignments vary so much from issue to issue. The "Best Products" issue represents one of the larger publications which the Magazine puts out every year. Therefore, it would be one of the more challenging assignments for everyone involved, and should expose any problem

areas that are present. Targeting this predetermined sample group will provide some common ground for comparisons.

4.3 Using an On-line Survey Tool

Since the Magazine employs people from all over the United States and abroad, it would have been very difficult to administer a survey without using mail. However, it was desirable to make this a completely anonymous survey. It became evident that using the World Wide Web was a promising alternative.

After some research, it was decided to use an on-line survey company called SurveyMonkey. (Their web site address is www.SurveyMonkey.com.) Using their online tools, a survey can be transformed into web pages and responses collected automatically. An example page, shown as a screen capture, is available in Appendix B.

This system has the added benefit of tabulating responses without introducing recording errors. These results can be exported into a number of common formats, and then downloaded to a computer for further analysis.

A goal was to make the survey as easy to answer as possible. To that end, many "radio buttons" were used, which enable a respondent to answer a question simply by clicking a button on the web page. This is especially true of questions that ask the respondent to rate something on a scale. The example in Appendix B shows such a question which uses radio buttons for responses. For other questions, drop-down menus were used.

As a result, the survey takes the respondents less than ten minutes to complete, despite requiring 45 answers. (This ignores lengthy answers on the final two essay

questions.) The shorter the survey, the more likely respondents will be to fill it out completely.

4.4 Options for the Online Survey

There are many options for how the survey can be administered that do not change its content. Some may or may not have the possibility of changing the results. Each option will be examined briefly, with an explanation of why each was chosen.

The first decision was not to use encryption on the web site. There was no confidential or personal data used, so the risk of having it intercepted was virtually zero. Additionally, SurveyMonkey charges a premium to use encryption. Since it would not increase the quality of the survey, this was the deciding factor to not use encryption.

Since the survey is anonymous, the only identifying information is the network (IP) address of the computer from which the survey was taken. SurveyMonkey provides several options for using this one piece of information, all of which are designed to control multiple responses. The first option limits one response to a unique IP address. Similar to the first, the second option also prevents a respondent from going back to previous pages in the survey. These options attempt to prevent a respondent from completing the survey more than once. However, the Magazine uses a networking system where every computer "shares" one IP address. (They use "private" addresses on their internal network and translate them to a single IP address at their networking border. This is called Network Address Translation or NAT.) If either of these first two options were used, only one person at the Magazine would be able to complete the survey.

A third option allows for multiple responses from a single IP address, but assumes that only one person is at that machine. If a survey is left incomplete, it will pick up

where the last person left off. What is really needed in this instance is the fourth option. It allows multiple responses from a unique IP address, but always starts a new survey from the beginning.

A fifth option is also available, but wasn't considered for the survey. When the survey is completed, it automatically starts the survey again from the beginning, facilitating another response. This was developed for use with a kiosk, such as during a presentation, or some event with a high volume of walk-up traffic.

Because of the option used, there is a possibility of someone "poisoning" the survey by responding the same way many times to change the average. However, the overall number of respondents will be known. So, if the sample size is greater than the total number of respondents, the data can be considered "tainted."

4.5 Inviting Respondents to Participate

Once the survey is designed, respondents need to be invited to participate. Each survey contained on the SurveyMonkey web site is addressed with a unique 12-digit number. Much like a credit card number, these survey identifiers are not sequential, but encoded to prevent someone from casually "browsing" for surveys. SurveyMonkey also allows a survey to be password protected. However, it was decided that this level of security was not necessary. The survey will only be open for responses for one week. Again, the risk of an uninvited respondent casually stumbling onto the survey is minimal.

The SurveyMonkey web site has a function to generate a link to the survey that can then be sent to respondents via e-mail. Further, the invitation e-mail can be sent directly from the SurveyMonkey web site, or from another e-mail system. This option is a good match for the pool of respondents, since it is of known size. Other SurveyMonkey

options include creating a link that is designed to be viewed on a web page or a pop-up from a separate web page. However, using a web site to announce the survey does not guarantee that your intended list of invitees will see it. These options are designed more for "contextual feedback," and not of use in this survey.

Once the survey is opened for responses, respondents can follow the link in the invitation and begin filling out the survey. The survey can be configured to "close" or stop taking responses automatically at a given date and time. This cutoff date is specified in the invitation letter, thus alerting the respondents to how much time they have to complete the survey.

5. Analyzing the Survey Data

A complete copy of the raw survey data may be found in Appendix C. Each section of the survey will be analyzed independently. Overall trends as well as deviations of interest will be examined in greater detail.

5.1 Project Success

The survey questions in this section examine how successful the team members viewed the project, which was publishing a particular issue of the Magazine. The average responses to each question are graphed in Figure 1. In general, the team members submitted similar responses, and there wasn't a particular respondent whose answers were markedly different from the others. It is interesting to note that there are no responses of "strongly disagree." However, there are two questions with marginal agreement and warrant a closer look.

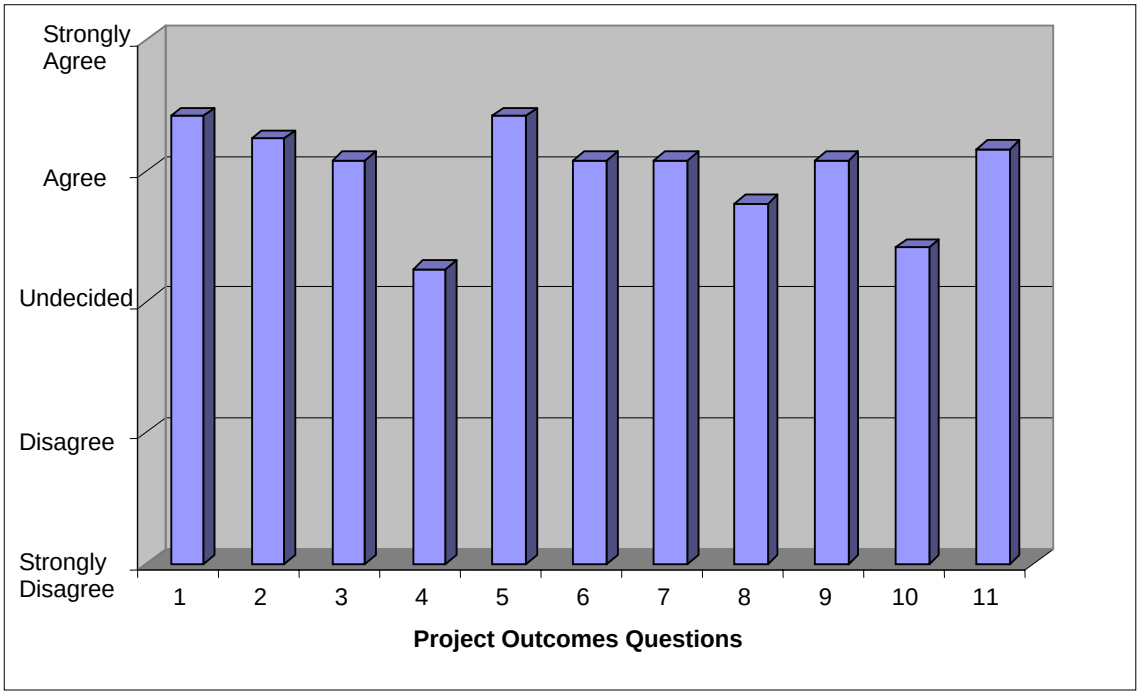

Figure 1: Average Responses to "Project Success" Survey Questions

Question 4 asks the team members if this issue represents the "best alternative to solve the problem of providing information on best-of-breed products." While the average response was very close to "undecided," there were just as many "disagree" responses as there were "undecided" responses. The average was brought up with a slightly higher number of "agree" responses. However, it is interesting to note that there were no responses of "strongly agree," leaving some room for doubt.

This average response could indicate that the teams are always looking for better ways of providing this information, and aren't convinced that they aren't willing to label this one "the best." If the team members know of a method which they feel is superior, one would expect more "disagree" responses, and possibly some responses of "strongly disagree."

The second question with marginal agreement was Question 10, which asks if publishing this issue represents a "definite improvement" over how this information was provided in the past. While there is only one response of "disagree," there is a much higher incidence of "undecided," and no responses of "strongly agree." The reason for this is most likely that there was no previous incarnation of this particular issue for comparison. The "Best Products" issue, which highlights and summarizes the strongest performers in the previous year's testing, is relatively new. Prior to that, there was no summary issue that served this purpose. So, responses to this question may be based purely upon speculation.

The only other question of interest is Question 8, which asks if the team members feel that this issue will "lead to more effective decision-making." Despite a fairly strong agreement, it was the only other question that did not garner any "strongly agree"

responses. However, Question 5 asks whether readers who are "using or evaluating products referenced in this issue" will find it useful, and its average response was tied for the strongest agreement. Perhaps the team members feel that the issue will be a good source of information, but will not necessarily aide the readers in reaching a decision of their own.

Responses from the other questions averaged above an "agree" response. Therefore, overall the respondents were pleased with the issue.

5.2 Project Outcomes

The section dealing with "Project Outcomes" had only four questions. In general, there was agreement with each of the four statements, as shown in Figure 2, which graphs the average response to each question. However, there are some interesting patterns to be found in the individual responses.

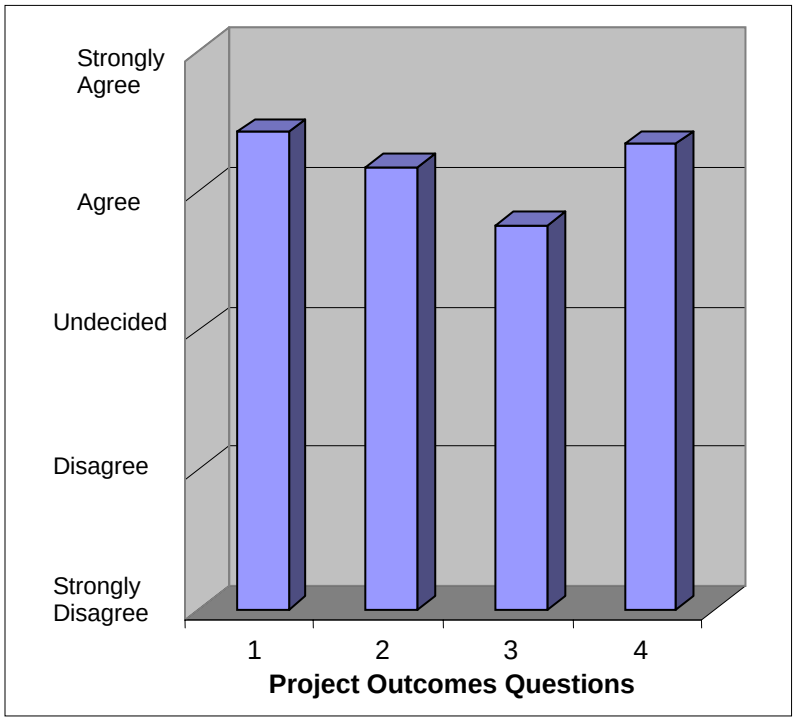

Figure 2: Average Responses to "Project Outcomes" Survey Questions

As shown in Figure 2, the statement with the lowest agreement was Question 3, which claims that the project is "coming in on or near budget." Half of the responses were "undecided," with the balance split between "agree" and "strongly agree." Since many of the respondents are contract writers, they would most likely not know the overall financial health of a particular issue. And, while the survey was anonymous, it would be reasonable to assume that the few "executive" respondents might have been the ones responsible for the strongest agreement. The issue was, indeed, published on time.

The other interesting pattern came from the way the individual respondents answered these four questions. (Please refer to Appendix C for the table of individual responses.) Virtually all respondents gave the same level of agreement on each question. Only two responses included both an "undecided" and a "strongly agree." This could also be a side-effect of the role of the respondent. Those respondents who were free agents are less likely to know the overall status of the issue, since they were contracted to provide only a small piece of it. While their assignment may have been completed on time, it is not guaranteed that this will translate to the timeline of the issue as a whole. On the other hand, the executives and editors would have much more intimate detail of the entire issue, and therefore are more likely to feel strongly about these related questions.

5.3 Psychosocial Outcomes

The section covering psychosocial issues also produced patterns of interest. These questions demonstrate how well the respondents worked together during the course of producing this issue. However, it should be noted that not all of the respondents worked together directly. So, it should not be assumed that these responses apply to the entire

sample. Rather, they may be directed at a smaller subset, or perhaps even towards someone who chose not to respond to the survey.

The average responses to these questions are shown in Figure 3. While not quite as strong as the previous two categories, there is general consensus with each question posed. Once more, there are two interesting patterns that can be seen when looking at the individual results.

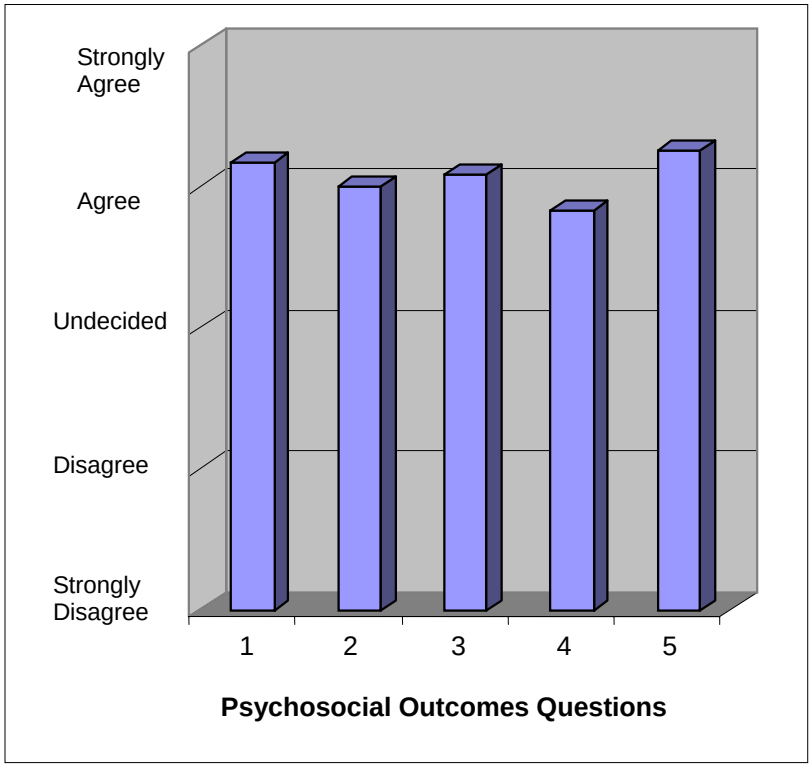

Figure 3: Average Responses to "Psychosocial Outcomes" Survey Questions

The first pattern shows up in the responses to Question 4. In Figure 3, it appears that this question has moderate agreement. However, if the tabular data in Appendix C is examined, it can be shown that there is a “disagree” and a “strongly disagree” response that counterbalances the rest. The wording of this particular question is important in understanding the responses. It states “I enjoyed working on this particular issue.” It is

the one question that does not ask about other team members, but rather the enjoyment derived from working on the issue itself.

This issue is one of the larger issues published by the Magazine each year. Additionally, some writers are asked to write more content for this issue than for others. So, these responses could simply be a result of not enjoying the extra workload and pressure. But, it is within the realm of possibility that they did not enjoy working with a particular person on this issue.

This leads to the next pattern of interest. There was one individual who clearly did not enjoy working with the people on their team. Two questions received a "disagree" response, and two more received a "strongly disagree" response. Interestingly enough, the remaining question, which stated "each team member contributed their fair share," received a response of "agree." This would imply that the respondent wasn't upset with having to do more work than others, but rather that there may have been some kind of personality conflict. The individual's responses aren't overly negative in any other section of the survey, which serves to reinforce this theory.

5.4 Communications Medium and Percentages

The next two sections of the survey questions will be examined together since they are highly intertwined. They examine the various methods of communication that are used between team members, both in frequency as well as the percentage of usage. It is important to understand that these two questions do not yield the same result. For example, a respondent may use the telephone 100% of the time; yet, they may only make one phone call per day, specifying a result of "sometimes" for how frequently it is used.

By asking both questions, it will demonstrate not only which communications mediums are relied upon the most, but how often they are being used.

Figure 4 contains a graph of how frequently various methods are used, while Figure 5 shows what percentage of communication each medium transports. Only one respondent specified a communications medium not explicitly mentioned on the survey, which was "shared files." As it turns out, this respondent makes extensive use of this method, as well, both in terms of frequency and percentage of use.

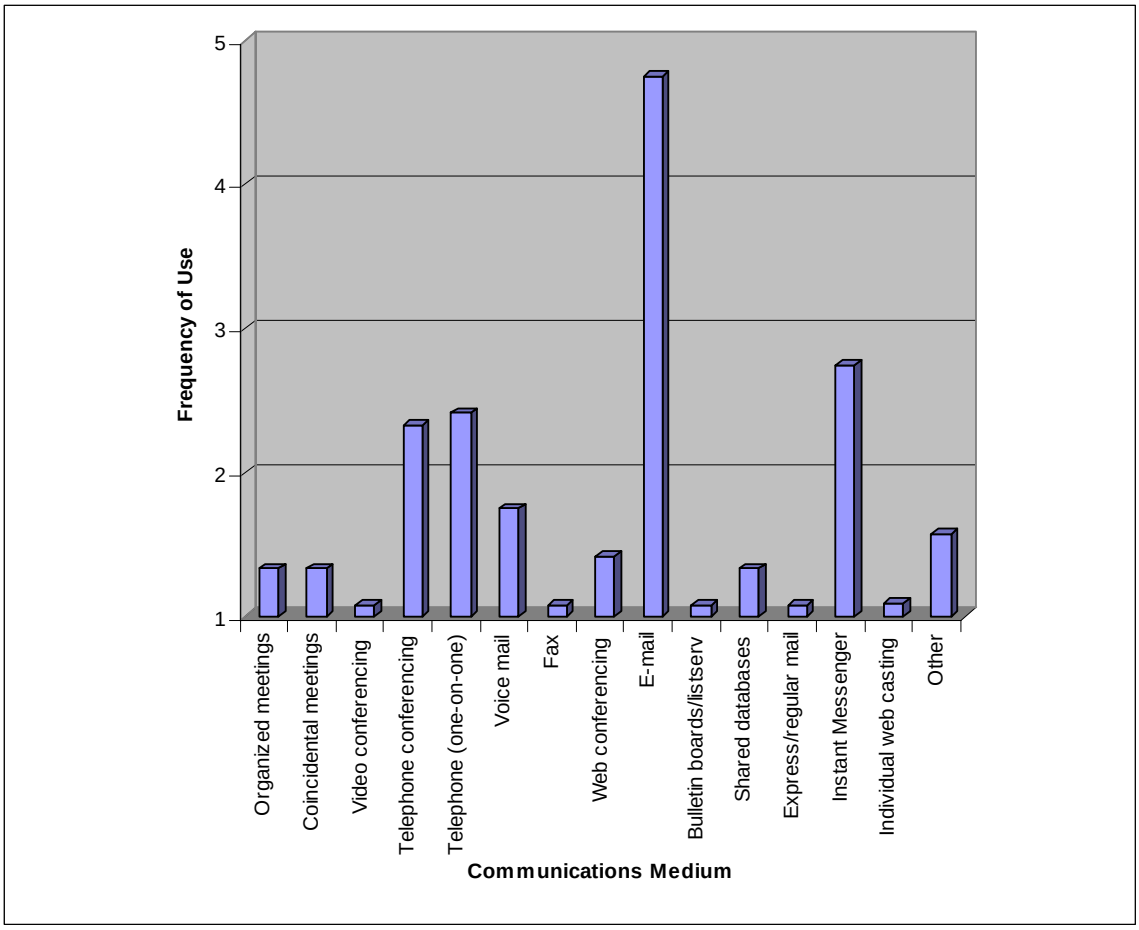

Figure 4: Average Responses to "Frequency of Use" Survey Question

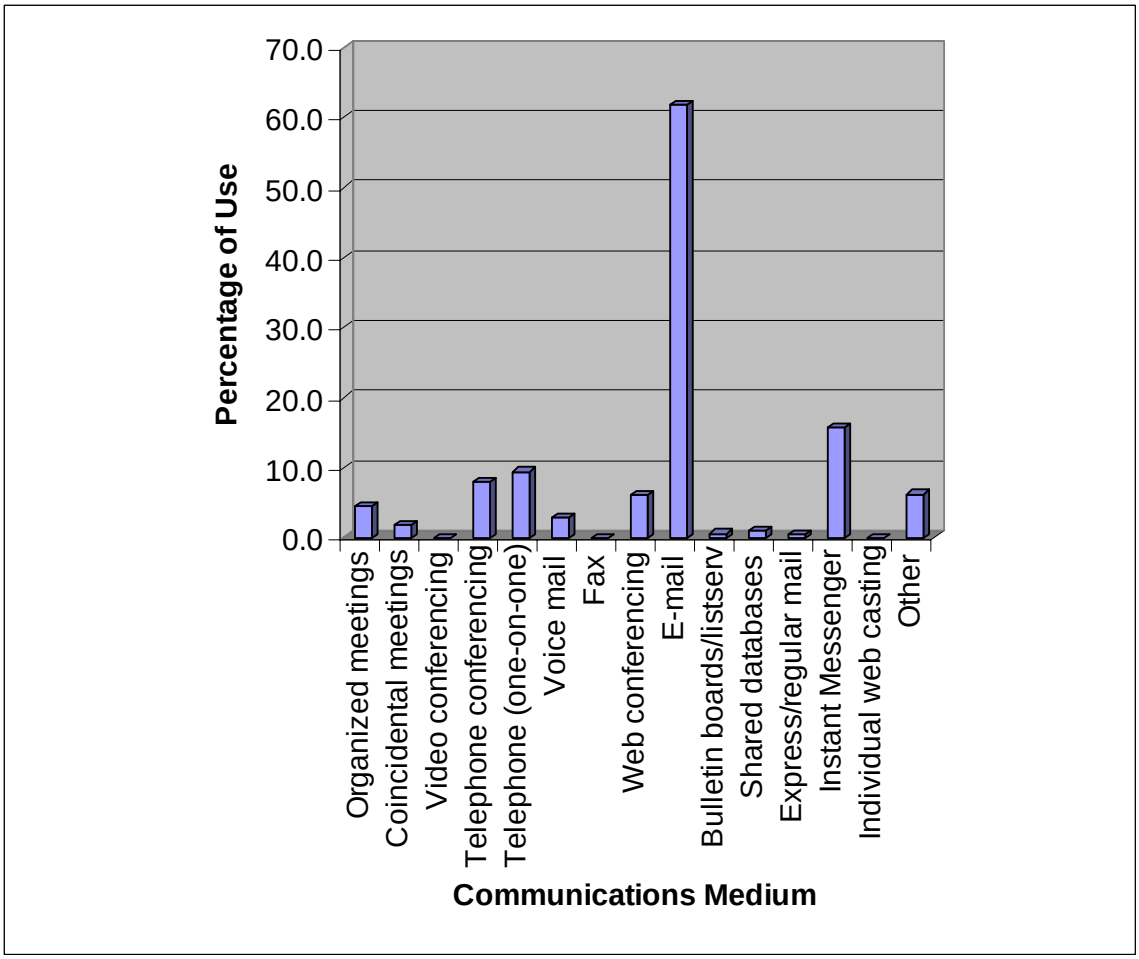

Figure 5: Average Responses to "Percentage of Use" Survey Question

In examining Figures 4 and 5, it is apparent that the one indispensable communications medium is electronic mail, more commonly know as e-mail. It appears to be a strong carrier of information in the figures. However, looking at the individual responses shows two patterns of note.

There were four respondents who put much lower dependency on e-mail than their peers. Two of the respondents also use Instant Messaging tools very heavily. In many ways, these so-called “IM” tools work similarly to e-mail when they are used to quickly dash a message off to a recipient. When the recipient is at their computer and available to

provide an instant response, Instant Messaging can be even faster and more convenient than e-mail. In fact, IM does have one advantage over e-mail, in that it can inform the sender whether the recipient is available for an instant response. So, it can be seen as an avenue to facilitate the fastest possible response. Even with a telephone call, you can never be sure that the person on the other end will be there to pick up the phone.

The other two respondents made much heavier use of the telephone, either in person-to-person calls or conference calls. It is possible that these respondents work frequently with vendors to collect story information. Many times, vendors will schedule a conference call so that many participants can be available to talk about their products and explain how they work to the writers. Telephony works very well in this setting, and may explain why these two respondents prefer the telephone while their contemporaries rely on e-mail and Instant Messaging.

There is one area that should have been probed more deeply, and that is with respect to data file exchange. Writers and editors obviously work with a large volume of text documents. It can be assumed that these documents are exchanged as attachments to e-mail. However, there was not a question in the survey designed to capture this nuance of workflow, which leaves this point as speculation. Perhaps it explains why one respondent was very heavily dependent on the shared file system.

5.5 Individual Characteristics

The next section of the survey examined some basic demographic information about the sample group. The first question was modified slightly from its original form in the Grevins dissertation. While the question for "team identification" was an open-ended question originally, it was transformed into a three option list for this survey, with the

options being writer, editor or art/design/web layout. Out of 12 respondents, five identified themselves as "writers," and seven identified themselves as "editors." However, none of the respondents categorized themselves as belonging to the art/design/web layout group. While this does not diminish the responses of the other two groups, it does limit the number of comparisons that can be drawn across the workgroups.

The next question in the survey asks for the gender of the respondent. There were five "male" responses, six "female" responses and one non-response. This shows a good balance, and can be used to examine patterns based upon gender.

In general, both sexes shared a common opinion on most of the survey questions. There were only a handful of differences, and none were significant. Women felt more strongly than the men that the issue increased the readers' efficiency, had more agreement that the issue was coming in on budget, and was generally more proud of their team's results. While both sexes liked using e-mail, women made more frequent use of Instant Messaging while the men made much more frequent use of telephony. However, the average age of the men was a decade older than the women, and phone usage tends to favor age. Beyond these differences, the rest of the responses were nearly identical.

Figure 6 shows the age breakdown of the sample group. There are two points of interest on this figure. First, the average age is in the 40-49 range. However, there are no respondents younger than 30 in the sample group. This demonstrates a level of maturity in the team members, which may contribute to their ability to be successful.

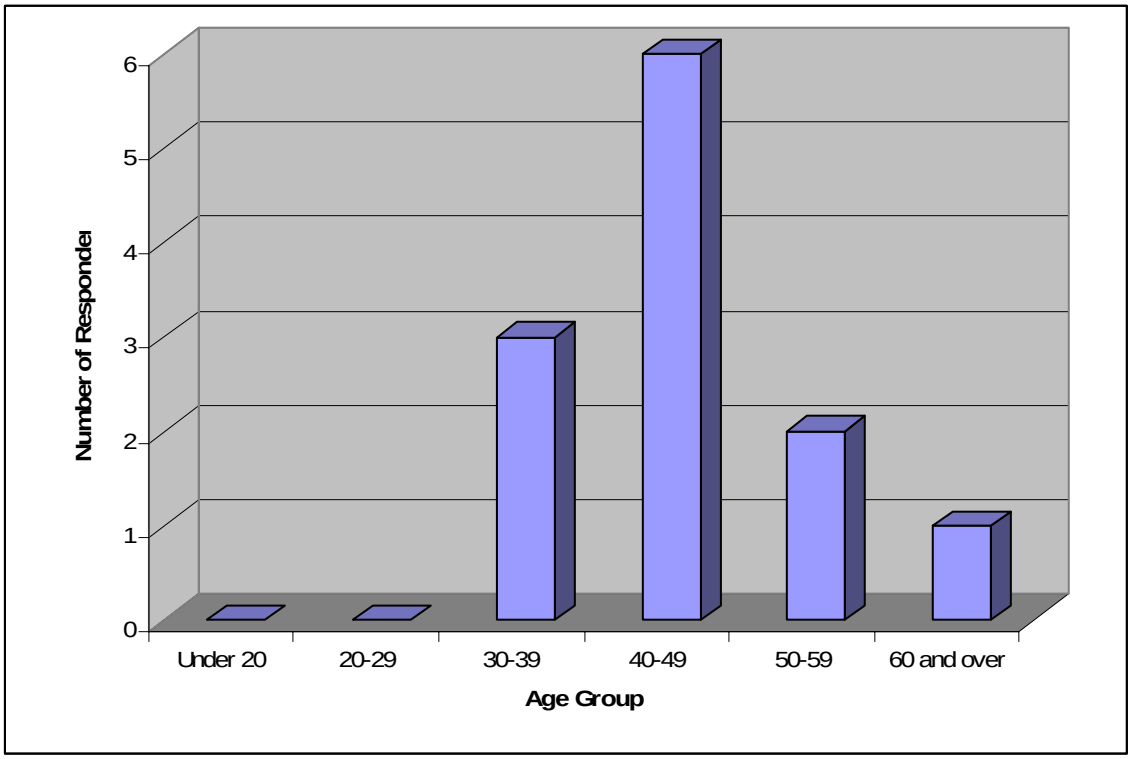

Figure 6: Age Demographics of the Sample Group

The educational level of the sample group is shown in Figure 7. The average respondent holds a four year degree. However, there is also strong representation in graduate work, with three respondents completing some graduate work, and one holding a masters degree or better.

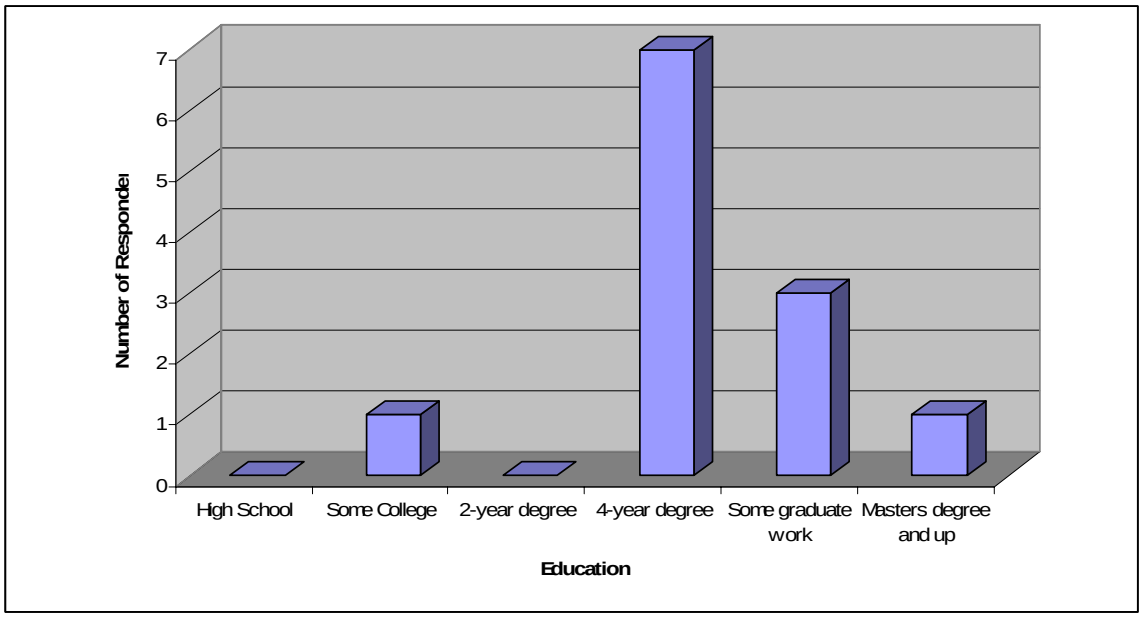

Figure 7: Educational Level of Sample Group

The next question asks what role each respondent plays in the organization. This question was not modified from its original form in the Grevins dissertation. It is not necessarily a good fit for the Magazine, as the question has far more layers of administration. This is somewhat reflective of Figure 8, which shows how the respondents positioned themselves in the organization.

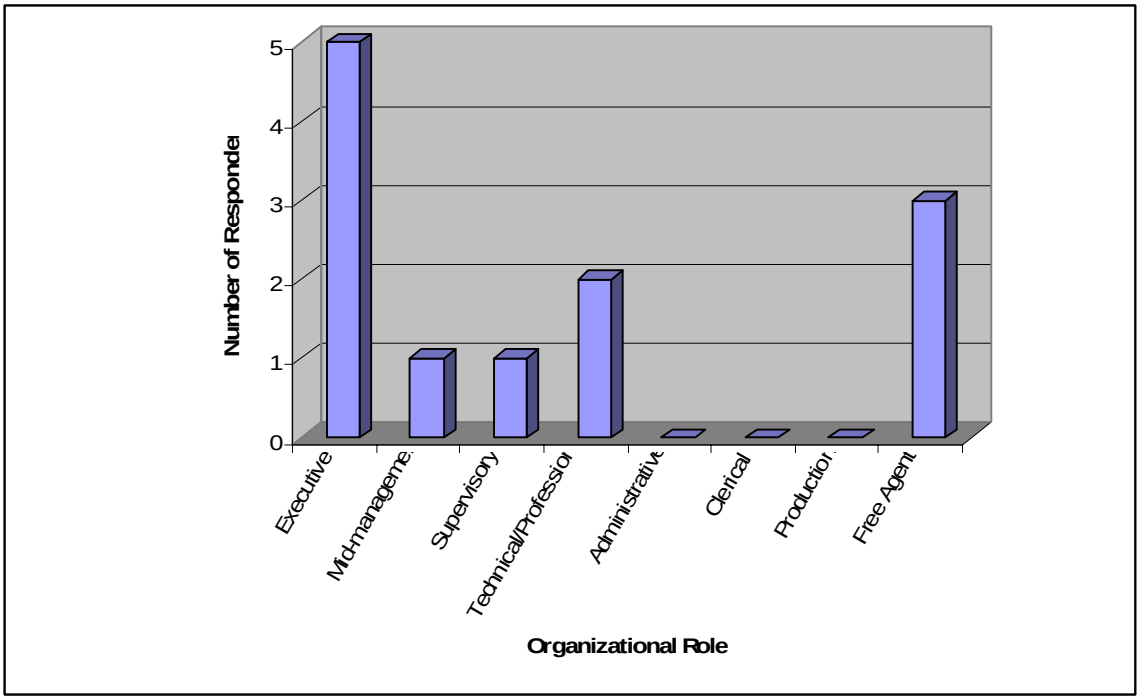

Figure 8: Organizational Roles of the Sample Group

The first thing that stands out about Figure 8 is the inordinate number of responses for "executive or top management" within the magazine. Indeed, almost half of the respondents claim to be in this group. One associated themselves in middle-management, while another selected supervisory. Two more selected technical/professional roles. The balance of three declared to be free agents, or not employed by the Magazine.

This question may have been very confusing for the respondents, since the organizational hierarchy of the magazine is very flat. Even the top-most executives in the Magazine take an active role in both writing and editing some of the content. There are only about three layers of management at the Magazine, yet the survey question provides for seven. In hindsight, this question probably should have been tailored to the specific structure of the Magazine to provide a more meaningful response.

The final question in this section was an open-ended call for years of experience. Echoing the responses in the age category, the average response was 23 years. The highest total was 40 years, and the lowest was 14. This suggests that the Magazine works with very seasoned staff, at least as writers and editors.

5.6 Team Location

The physical location of the team was the subject of the next section of survey questions. These questions were answered with "yes" or "no" responses and the averages are charted in Figure 9.

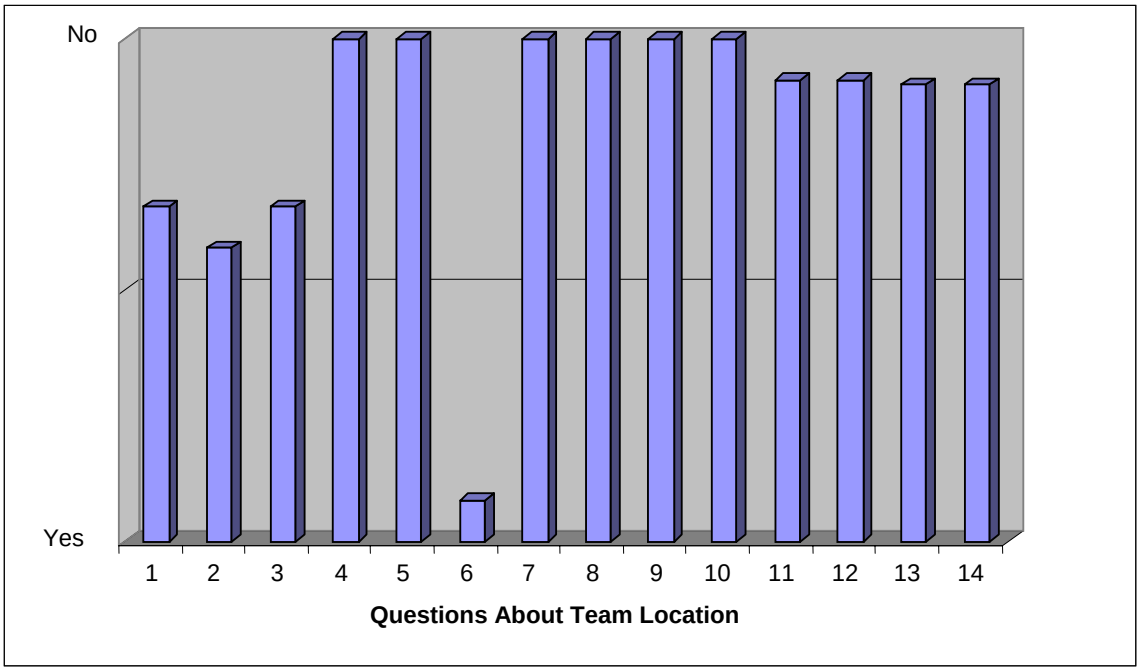

Figure 9: Average Response to Questions About Team Location

The first question in this section asked whether or not each team held a kick-off meeting at the beginning of this project. The average response was a moderate "no," as shown in Figure 9. Many of these smaller teams remain the same from project to project. So, unless there was something significantly different for this issue, there may not have

been a need for such a meeting. On the other hand, teams that are responsible for determining the content of the issue may need to meet to create an overall plan. In either case, it demonstrates that the use of kick-off meetings is not uncommon.

The second question suggests that teams are often made up of members from different departments of the Magazine, and possibly including free agents. It shows only slight disagreement with the question of whether all members of the team were part of the same division or group within the company. This is related to the response to the third question, which asks if their team has members that are not employed by the company. With a slightly more negative response, it indicates that free agents aren't used on as many teams. However, the Magazine primarily uses free agents as writers to help deliver content. Therefore, it stands to reason that they would not be used on all teams. In any case, it demonstrates that the Magazine routinely creates teams from a range of departments.

The next three questions are very telling. The first two ask if all of the team members are all located in the same city and state, respectively. With 100% agreement, the answer was "no" for both. This is a very significant statement, saying that every single team has at least one member working in a different state. The fifth question asks if all of the team members are located on the same continent. While this was almost unanimously a "yes" response, one respondent did, indeed, say that they worked with someone on another continent. This strongly reinforces the notion that the Magazine is successful using virtual teams that are very geographically dispersed.

The next four questions are almost obvious for such a separated group. All four questions were a unanimous "no" by the respondents. They asked if the team members

were located in the same building, on the same floor, and whether they used the same meeting room and at the same time. Indeed, with the team members not even in the same state, it wouldn't even be possible to use the same meeting room most of the time.

The final four questions in this section query the use of project management software. While the results weren't quite unanimous, it is very clear that the vast majority of the teams do not use project management software. However, considering the type of work being performed by most of the teams, it may not be needed. Only the top executives may need such a tool, since they are the ones charged will pulling everything together. There was only one individual who answered "yes" to the use of the project management software. Other work groups have smaller tasks, which are limited in scope to a manageable size. Using such a tool for that task may simply be a waste of time for those groups, and not provide them any benefit.

5.7 Team Member Locations

The next section of the survey asks how individual team members perform work for their teams. It is interesting to note how these questions are worded. They are not asking about the respondent specifically; but rather, they are asking about the average behavior of the individuals as perceived by the respondent. This could be a challenge, since individual team members are so far removed from each other. Answering the question accurately would require the respondent to know a lot about their team members. Since there is less social interaction between virtual team members, this information may be more difficult to obtain. This difficulty may be reflected in the high standard deviation of the results. Or, the higher standard deviations may be a result of the percentages having too much granularity. The average results are show in Figure 10.

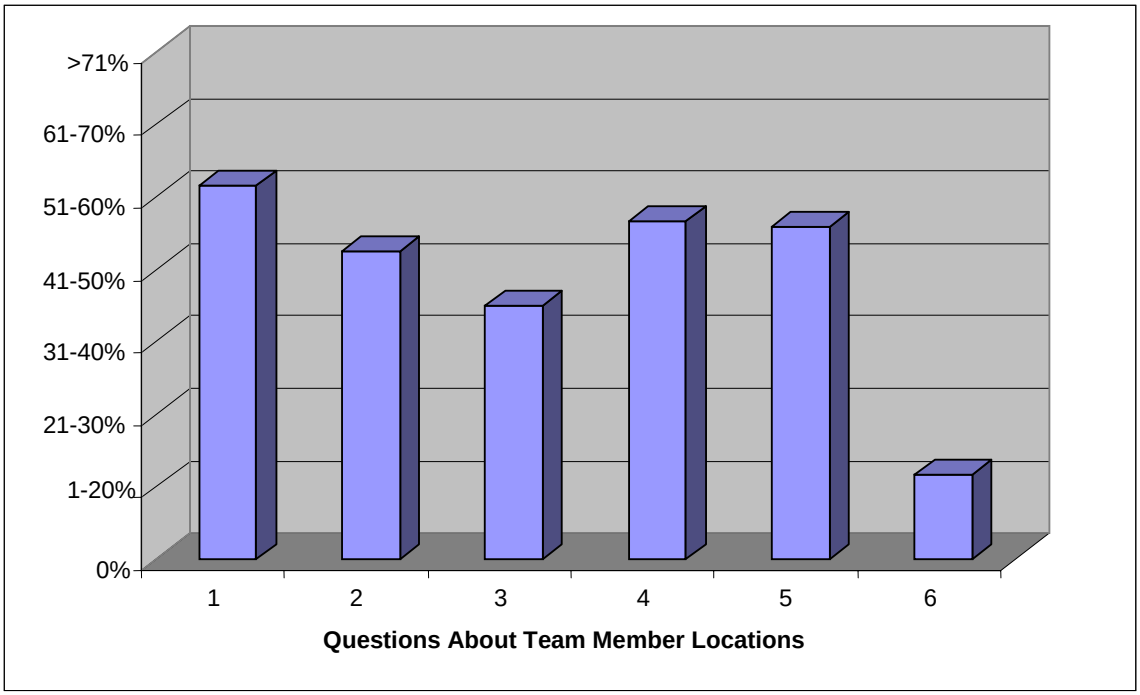

Figure 10: Average Responses to Questions about Team Member Locations

The first question asks what percentage of the team members have flexible work hours. Having the highest average percentage, it is clear that everyone works at different times of the day. This ties in closely with the fifth question, which asks what percentage of the team works in a different time zone. Only one respondent claimed less than 20% of their team was in another time zone, yet there were four respondents claiming over 70% of their membership was in different time zones. This revelation may explain why the first question was so high. Working with team members in another time zone would almost mandate flexible hours. Perhaps the survey should have asked how many hours difference their team had to overcome. For example, a team split between the east and west coast would only have five "standard" working hours in common.

The second question had the highest standard deviation, showing just how much the response varied from team to team. It asks how common a flexible work week is. Only

two respondents indicated that everyone on their team had the same schedule of work days, while four respondents reported that at least 70% of their team worked flexible days. The rest of the respondents were scattered in between. While this does not indicate any sort of pattern, it does aptly demonstrate that the teams are able to be successful with a wide range of working hours and days.

Question three asks respondents how frequently their team members traveled out of town on a regular basis. Presumably, this question was looking to see how much disruption there would be to the teams based upon this behavior. However, it is unclear how this would impact teams that are so geographically dispersed to begin with. Even when they are "at work," many of the team members are "out of town."

The fourth question asks how often team members work from home. This response showed a fairly strong percentage and a milder standard deviation. While most of the responses were in the 50-70+% range, there were a couple of respondents in the 20% range to account for that discrepancy. This question doesn't aim to differentiate between the person who works at home in the evenings from the person who works at home all of the time, or someone doing a little of both.

The final question in the section asks what percentage of the team members were not working for a variety of personal reasons. This question had the lowest standard deviation, and only two responses were over 20%; one claimed 30-40%, while the other claimed 60-70%. The response indicates that most team members are committed to their teams, and not asking others to shoulder additional burden during their absences. The other two responses seem to be more of an anomaly.

5.8 Miscellaneous

The remaining three questions in the last section were open-ended questions, and cannot be "averaged" the way the rest of the survey could. The first of the three questions was the most curious, asking if team members behaved differently if they knew they would be working with other team members in the future. Two-thirds of the respondents said that it would not make any difference. For the remaining four respondents, their concerns were that they wouldn't be as vocal or forward in dealing with problems that may arise. However, they all stated something to the effect of being "professional" in dealing with team members.

The next question asked the team members how they worked on the project. The responses were mixed, with some working exclusively in the office and others working exclusively at home. A common theme was making exceptions to get the project done, either changing hours or taking work home. When the team is used to working virtually, it adds a new dimension of flexibility when the work demands it.

For the final question, the survey asked each team member what their preferred communication medium was and why. Every single respondent listed e-mail, but a few also added Instant Messaging and phones. One respondent went so far as to list several communications mediums and in what situation they are preferred. The respondents liked the simplicity and ubiquity of e-mail, as well as its "asynchronous" timing, allowing team members to respond when it was convenient. However, the respondents were also quick to point out that Instant Messaging and the telephone were much better suited when the communication required some immediacy.

6. Conclusions

The Magazine has proven successful on two fronts: 1) their teams can work virtually, allowing their employees to be in the next city, or even the next time zone; and 2) they can work with free agents, allowing them to provide better content than they could produce with only staff writers. In fact, these two points support each other. Since the Magazine is successful at using virtual teams, they can work with the best talent available, regardless of their geography. And since geography isn't a limitation, why should the bounds of employment be? If the best person to provide subject matter expertise is a free agent, the Magazine has the flexibility to work with them as easily as any other employee. This is very similar to the success of the Finnish newspapers, which were able to look beyond their own company borders for additional content.

The team members at the Magazine make frequent use of communications media such as e-mail and Instant Messaging. This echoes a point made in the Finnish newspaper case study, that people who are heavy users of e-mail make the easiest transition into virtual teams. Team members for the Magazine have also shown that they are quick to adapt to another medium when it facilitates better communication.

By and large, the teams enjoy working together despite being geographically separated in many cases. Each member was reported to do their fair share of the work, which strongly suggests that the differences in time and location do not seem to be significant hurdles. The teams have avoided the risks of "social loafing" which are sometimes present with static assignments. However, there is a danger of not being able to resolve social issues with unfamiliar team members, such as those outlined by author

Jack Gordon in his article. For example, some team members, while in the minority, have voiced concerns that could be resolved with a little more social contact among their team members.

The Magazine could conduct a reader poll to see how the information they present is used and applied. The readership could suggest ways to make it more useful as a decision-making tool, thus raising the value of the issue for both the readers and the Magazine. This may address some of the lack of agreement that the team members expressed in questions relating to these issues.

7. Suggestions for Additional Work

One area that was not covered was the use of collaboration software and how that may affect the efficiency of the teams. This software may also increase the effectiveness of communication between team members, and may supplement the project management. The biggest effect it may have at the Magazine is a central repository of files that could be available to all team members, even the free agents. However, it may also be used as a vehicle to share the goals and assignments of each team. This is a point brought up by Mullich and Gordon in their respective articles.

It was somewhat of a disappointment that there were no respondents from the art/layout/web design group. This would have provided a wider basis for comparisons, especially with a group that is markedly different from the writers and editors. It is unclear whether or not this group works out of the corporate facilities more so than the other groups. However, this would have added another dimension to draw comparisons upon.

Finally, the team members had a minimum of 14 years of experience, and an average of 23 years. One very good point of study would be whether a fresh college graduate would have the discipline to work as effectively on a virtual team. Does a successful team member require some level of prerequisite experience to be able to function virtually, or can this skill be picked up in the absence of social mentoring? It would seem to be very difficult to be able to do a new or unfamiliar job without someone to provide some level of “on the job training.”

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10. Appendix A

The following is the "paper" version of the survey that was transformed into a web-based survey.

Please respond to the following statements by indicating the extent to which you agree or disagree with the statement. Please circle your response.

1- Strongly Disagree
2- Disagree
3- Undecided
4- Agree
5- Strongly Agree

Project Success:

1. The "Best Products" issue will do/did what it is suppose to do.

1 2 3 4 5

2. The "Best Products" issue will be used by its intended users/customers (readers).

1 2 3 4 5

3. The "Best Products" issue directly benefits the readers through either increasing efficiency or effectiveness

1 2 3 4 5

4. This project (publishing this issue) is the best alternative for solving the problem it was developed for (providing information on best-of-breed products).

1 2 3 4 5

5. Important readers, using or researching products referenced in this issue, will find this product useful.

1 2 3 4 5

6. I am satisfied with the process used to complete the project (publish issue).

1 2 3 4 5

7. I am confident the "Best Products" issue will be readily accepted by intended readers.

1 2 3 4 5

8. The “Best Products” issue will directly lead to more effective decision-making or improved performance for its readers.

1 2 3 4 5

9. The “Best Products” issue will have a positive impact on those who read it.

1 2 3 4 5

10. The “Best Products” issue represents a definite improvement (or better alternative) over the way users/customers used to perform these activities in the past

1 2 3 4 5

11. All things being considered, the “Best Products” issue will be a success.

1 2 3 4 5

Project Outcomes:

1. To date, the project is on schedule (the issue will be published on time).

1 2 3 4 5

2. The project team is accomplishing all of the tasks that it set out to do.

1 2 3 4 5

3. The project is coming in on or near budget.

1 2 3 4 5

4. The project goals are being achieved.

1 2 3 4 5

Psychosocial Outcomes:

1. I enjoyed working with the members of my team.

1 2 3 4 5

2. Each team member contributed his/her fair share.

1 2 3 4 5

3. I am very proud of my team's project results.

1 2 3 4 5

4. I enjoyed working on this particular project (issue).

1 2 3 4 5

5. I will enjoy working with these team members again.

1 2 3 4 5

Communications Medium:

Average frequency of communication with your team members using the following methods. Please circle your response.

1- Never
2- Sometimes
3- Often
4- Frequently
5- Very Frequently

1. Organized Face-to-face meetings

1 2 3 4 5

2. Coincidental meetings in lobby, cafeteria, hall, etc.

1 2 3 4 5

3. Video conferencing

1 2 3 4 5

4. Telephone conferencing

1 2 3 4 5

5. Telephone

1 2 3 4 5

6. Voice Mail

   1 2 3 4 5

7. Fax

   1 2 3 4 5

8. Computer conferencing

   1 2 3 4 5

9. E-mail

   1 2 3 4 5

10. Bulletin boards/listserv

    1 2 3 4 5

11. Shared databases

    1 2 3 4 5

12. Express/regular mail

    1 2 3 4 5

13. Instant messenger

    1 2 3 4 5

14. Individual web casting (voice and video)

    1 2 3 4 5

15. Other (please specify) _____

    1 2 3 4 5

Communications Medium (%) Percent:
Percentage of your team's information exchange done through the following communication methods. 100% total.

1. Organized face-to-face meetings _____%
2. Coincidental meetings in lobby, cafeteria, hall, etc. _____$
3. Video conferencing _____%
4. Telephone conferencing _____%
5. Telephone (one-to-one) _____%
6. Voice mail _____%
7. Fax _____%
8. Computer conferencing _____%
9. E-mail _____%
10. Bulletin boards/listservs _____%
11. Shared databases _____%
12. Express/regular mail _____%
13. Instant messenger _____%
14. Individual web casting (voice and video) _____%
15. Other (please specify) _____ & _____%

Total 100%

Individual Characteristics:

1. What is your team / project name or identification?
___Writer, ___Editor, ___Art/Layout/Web Design

2. What is your sex, _____Male or _____Female?

3. What is your age, __under 20, __20 to 29, __30-39, __40-49
__50 – 59, __60 or over

4. What is your education?

__High school

__Some college
__2 year degree
__4 year degree
__Some graduate work
__Masters degree and/or beyond.

5. Describe your job with respect to the organizational level

__Executive/top management
__Middle management
__Supervisory
__Technical and /or professional line staff
__Administrative staff
__Clerical Staff
__Production staff
__Consultant/Free Agent
__Other

6. If “other,” please specify: _____

7. What is your full time work experience (in years)? _____

Team Location:

1. When your project team was formed, was there a special “kick-off” or organizational meeting in which you participated?

__Yes / __No

2. Are all members of the team in you company division or group?

__Yes / __No

3. Are all members of the team employed by your company?

__Yes / __No

4. Are all members of your team located in the same city?

__Yes / __No

5. Are all members of your team located in the same state?

__Yes / __No

6. Are all members of your team located on the same continent?

__Yes / __No

7. Are all members of your team located in the same building?

__Yes / __No

8. Are all members of your team located on the same floor?

__Yes / __No

9. Does your team typically use the same meeting room or area for its meetings?

__Yes / __No

10. Does your team typically meet at the same time?

__Yes / __No

11. Does your team share the same project management software tool?

__Yes / __No

12. Do you provide information or updates directly to the software management tool?

__Yes / __No

13. Are only certain members of the project team charged with the responsibility to maintain the data and updates on the software tool?

__Yes / __No

14. Is the project management software tool available to all team members all the time?

__Yes / __No

Team Member Location:

1. What percent of team members have flexible work hours?

_____0%, _____1-20%, _____21-30%, _____31-40%, _____41-50%, _____51-60%, _____61-70%, _____71or greater %

2. What percentage of team members have flexible work days?

_____0%, _____1-20%, _____21-30%, _____31-40%, _____41-50%, _____51-60%, _____61-70%, _____71or greater %

3. What percent of team members travel out of town on a regular basis?

_____0%, _____1-20%, _____21-30%, _____31-40%, _____41-50%, _____51-60%, _____61-70%, _____71or greater %

4. What percent of team members work from their home?

_____0%, _____1-20%, _____21-30%, _____31-40%, _____41-50%, _____51-60%, _____61-70%, _____71or greater %

5. What percent of team members work in another time zone?

_____0%, _____1-20%, _____21-30%, _____31-40%, _____41-50%, _____51-60%, _____61-70%, _____71or greater %

6. What percent of team members are ill, on family business or away for personal reason during a given week?

_____0%, _____1-20%, _____21-30%, _____31-40%, _____41-50%, _____51-60%, _____61-70%, _____71or greater %

7. Does the likelihood that you are going to work together with some or all of you team members effect how you work together? _____yes or _____no

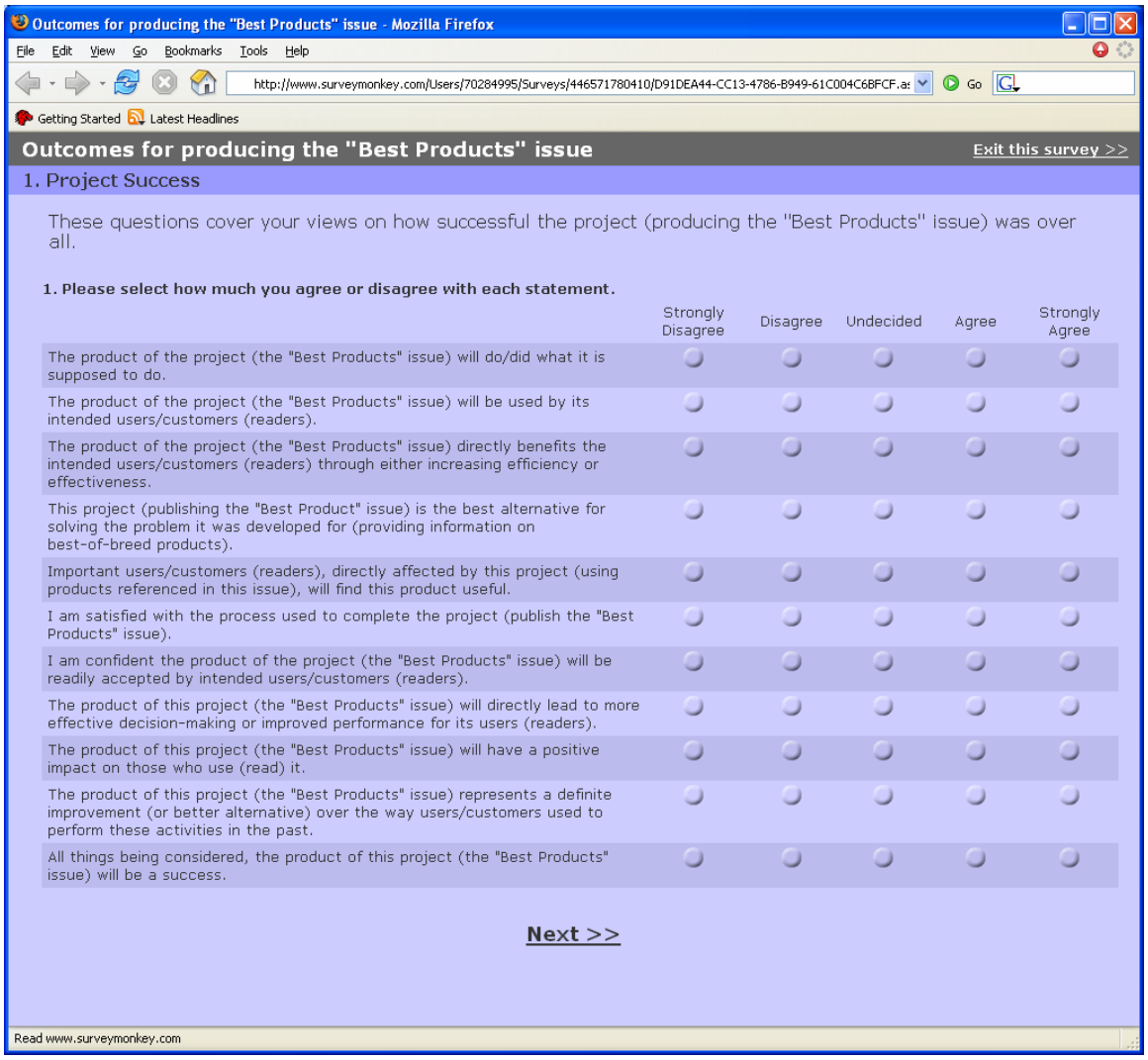
8. If yes tell how: _____

9. How did you work on the project (get up early, stay up late, work at home, work only at work)?

10. What is your preferred communication technology and tell why?

11. Appendix B

An example page of the survey after it was transformed into a web version.



12. Appendix C

The following is a tabulation of the individual survey results, as well as an average and standard deviation (where appropriate.)

Responses that use a rating scale have been color coded to aid in the visualization of patterns.

	Project Success Question Number										
ID Number	1	2	3	4	5	6	7	8	9	10	11
199958088	4	3	3	2	5	4	4	4	4	4	4
199959756	5	5	4	4	4	5	4	3	4	3	4
199982479	4	4	3	2	4	2	4	4	4	4	4
200032288	4	5	4	4	5	5	4	4	5	3	4
200198859	5	4	4	3	5	4	4	4	4	3	4
200208967	5	5	5	4	5	5	5	4	5	4	5
200350838	4	4	4	2	4	4	4	4	4	2	4
200591232	5	5	4	4	5	4	4	3	4	3	4
200885254	4	4	5	4	4	4	4	4	4	4	5
200887684	4	4	4	3	4	4	4	4	4	3	4
200912085	4	4	5	4	4	4	5	4	4	4	4
200980634	5	4	4	3	4	4	3	3	3	4	4
Average:	4.4	4.3	4.1	3.3	4.4	4.1	4.1	3.8	4.1	3.4	4.2
Std. Dev.:	0.51	0.62	0.67	0.87	0.51	0.79	0.51	0.45	0.51	0.67	0.39

	Project Outcomes Question Number				Psychosocial Outcomes Question Number				
ID Number	1	2	3	4	1	2	3	4	5
199958088	5	4	3	4	4	3	4	4	4
199959756	5	5	5	5	5	5	5	5	5
199982479	4	3	3	4	2	4	2	1	2
200032288	5	5	3	5	5	4	4	5	5
200198859	4	3	3	3	5	4	4	5	5
200208967	5	5	5	5	4	4	5	4	4
200350838	4	4	4	4	4	4	4	4	4
200591232	5	5	5	5	4	4	5	4	5
200885254	5	5	3	5	4	4	4	4	4
200887684	3	3	3	4	4	4	4	4	4
200912085	4	4	4	4	5	4	4	4	5
200980634	4	4	4	4	4	4	4	2	4
Average:	4.4	4.2	3.8	4.3	4.2	4.0	4.1	3.8	4.3
Std. Dev.:	0.67	0.83	0.87	0.65	0.83	0.43	0.79	1.19	0.87

	Communications Medium Question Number														
ID Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
199958088	1	1	1	4	2	1	1	1	5	1	1	1	2	1	
199959756	2	2	1	2	2	2	1	1	4	1	2	1	1	1	
199982479	1	1	1	4	2	1	1	1	5	1	1	1	2	1	1
200032288	1	1	1	2	2	1	1	2	5	2	1	1	3	1	1
200198859	1	1	1	1	4	3	1	1	5	1	1	1	5	1	1
200208967	1	1	1	2	2	2	1	1	5	1	1	1	5	1	1
200350838	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1
200591232	1	1	1	2	2	2	1	1	5	1	2	1	5	1	5
200885254	2	2	1	2	2	1	1	1	5	1	2	1	3	1	
200887684	2	2	2	4	4	3	1	4	4	1	1	1	2	2	
200912085	2	2	1	2	4	2	2	1	5	1	2	1	2		
200980634	1	1	1	2	2	2	1	2	5	1	1	2	2	1	1
Average:	1.3	1.3	1.1	2.3	2.4	1.8	1.1	1.4	4.8	1.1	1.3	1.1	2.8	1.1	1.6
Std. Dev.:	0.49	0.49	0.29	1.07	1.00	0.75	0.29	0.90	0.45	0.29	0.49	0.29	1.48	0.30	1.51

Respondent 200591232 specified an “other” response of “shared files on a central server accessed remotely via VPN.”

	Communications Medium Percentage Question Number														
ID Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
199958088					5				92				3		
199959756	10	2		5	5	5			73						
199982479				10	5				80				5		
200032288				3	4			3	81	3			6		
200198859					20				30				50		
200208967	0	0	0	5	5	0	0	0	35	0	0	0	55	0	0
200350838									100						
200591232	0	0	0	5	10	0	0	0	50	0	0	0	10	0	25
200885254	2	5		3	5				70				15		
200887684	10	0	0	25	10	5	0	25	20	0	0	0	5	0	0
200912085	10	5		10	30	5			30		5		5		
200980634	1	1	1	2	2	2	1	2	5	1	1	2	2	1	1
Average:	4.6	1.7	0.0	7.9	9.5	2.8	0.0	6.2	61.8	0.6	1.0	0.5	15.7	0.0	6.3
Std. Dev.:	5.13	2.36	0.00	6.92	8.26	2.48	0.00	10.62	27.34	1.34	2.24	1.00	19.76	0.00	12.50

Respondent 200591232 specified an “other” response of “shared files on a central server.”

	Individual Characteristics Question Number						
ID Number	1	2	3	4	5	6	7
199958088	1	1	5	5	1		28
199959756	2	1	4	4	1		26
199982479	2	1	3	4	4		19
200032288	1	1	6	2	8		40
200198859	1	2	3	5	8		14
200208967	2	2	4	4	1		21
200350838	1	2	4	4	8		20
200591232	2	2	4	4	3		20
200885254	2	2	4	4	4		17
200887684	1	1	5	5	1		30
200912085	2		4	6	1		25
200980634	2	2	3	4	2		16
Average:		1.5	4.1	4.3			23.0
Std. Dev.:		0.52	0.90	0.97			7.26

	Team Location Question Number													
ID Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14
199958088	2	1	2	2	2	1	2	2	2	2	1	1	2	1
199959756	1	1	1	2	2	1	2	2	2	2	2	2	2	2
199982479	2	1	1	2	2	1	2	2	2	2	2	2	2	2
200032288	2	2	2	2	2	1	2	2	2	2	2	2	2	2
200198859	2	2	2	2	2	2	2	2	2	2	2	2	2	2
200208967	1	2	2	2	2	1	2	2	2	2	2	2	2	2
200350838	2	2	2	2	2	1	2	2	2	2	2	2	2	2
200591232	1	1	2	2	2	1	2	2	2	2	2	2	1	2
200885254	2	2	1	2	2	1	2	2	2	2	2	2		
200887684	1	2	2	2	2	1	2	2	2	2	2	2	2	2
200912085	2	1	1	2	2	1	2	2	2	2	2	2	2	2
200980634	2	2	2	2	2	1	2	2	2	2	2	2	2	2
Average:	1.7	1.6	1.7	2.0	2.0	1.1	2.0	2.0	2.0	2.0	1.9	1.9	1.9	1.9
Std. Dev.:	0.49	0.51	0.49	0.00	0.00	0.29	0.00	0.00	0.00	0.00	0.29	0.29	0.30	0.30

	Team Member Location Question Number					
ID Number	1	2	3	4	5	6
199958088	8	8	5	2	1	2
199959756	4	1	5	4	4	1
199982479	7	5	6	6	6	2
200032288	8	8	8	8	8	2
200198859	8	8	1	8	5	1
200208967	5	2	3	6	8	1
200350838	8	8	8	8	5	1
200591232	2	1	2	8	8	7
200885254	5	5	1	5	5	1
200887684	8	6	7	4	6	2
200912085	3	3	2	3	3	2
200980634	8	8	6	6	8	4
Average:	6.2	5.3	4.5	5.7	5.6	2.2
Std. Dev.:	2.25	2.86	2.61	2.10	2.23	1.75

	Miscellaneous Question Numbers			
ID Number	7	8	9	10
199958088	2		Projects define workload and hours.	email, simplicity.
199959756	2		Only at work during work hours.	Email. Most efficient since it is asynchronous.
199982479	1	knowing that we'll probably work together on this project again means that you have to remain professional and nice with them, regardless of your true feelings.	Worked late on this project at work. For the most part it was part of my normal workload for this time of year.	e-mail -- could schedule this within the normal workflow of e-mails coming in -- not as urgent as IM or sitting in meetings, etc.
200032288	2		Incorporated it into regular routine	email - asynchronous communications without unnecessary interruptions
200198859	1		i work from home so it is flexible.	aol instant messenger, e-mail and phone
200208967	2		The project at times called for early mornings and/or late nights.	IM -- quickest and most efficient way to communicate -- and e-mail, for sending files back and forth and communicating with the design team, which does not have IM access.
200350838	2		Worked at home during work hours	E-mail -- flexible for time zones, efficient
200591232	2	I always try to be professional and polite, but I think that the gist of your question actually works in reverse. I am more likely to confront problems and issues with team members or work processes if I will be working with them again. Until a virtual team is very used to working with one another, some formal method of evaluating process at the end of each project is critical. After a while, though, you develop a healthy,	I work full-time from a home office but I work regular hours. I worked business as usual for this project, but because of the nature of this project, it typically requires a lot of last minute work. For that, I'm the get-to-work-at-5- a.m. type and stay until it's done. This is useful, too, because of the time zone differnces, as I'm on mountain time and much of my team is on eastern or central. So working early means more of my time	E-mail & instant messages for daily ongoing communication as it's less disruptive than phone calls. Scheduled meetings are best for project planning. However, e-mail & IM have a disadvantage in that in break communications up into tiny little pieces. For parts of the project -- where a single record is important for all people, we use shared documents on a shared server that team members who need to can access,

		efficient system that everyone understands and there is no need for ongoing post-mortem analysis until/unless something about the work process or its goals change.	overlaps with the worktimes of my team members.	even remotely. We have systems in place to 'check' these documents in and out. It is unsophisticated but works fine.
200885254	1	I would try to be nice anyway ... but I certainly wouldn't want to have an antagonistic relationship with someone I know I'll work with again in the future. At the same time, I would hope those on the other end feel the same towards me.	Work only at work.	e-mail: I'm ususally busy with other projects so this gives me time to respond when I can. It's also not as disruptive as phone calls and IM.
200887684	2		Work early, work late, work at home.	E-mail and web conferencing. E-mail for quick questions. Web conferencing for overviews, Q&A, and more detail.
200912085	2		Input on story selection and focus, theme for issue. Input on issue layout and design, headlines and decks, graphics.	Email. Efficient, widely accessible.
200980634	1	It's the favor bank. You put in favors, you'll get favors out next time you need them.	Worked late and at home.	Email, because I can answer it in my own time once I have all the info collected to respond in an appropriate manner.

Average: 1.7
Std. Dev.: 0.49